(No Model.)

N. U. WALKER.

SECTIONAL PIPE.

No. 261,190. Patented July 18, 1882.

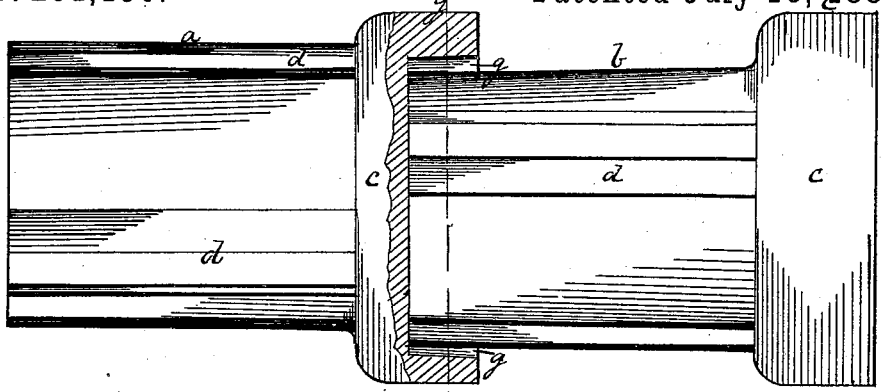

Fig. 1.

y

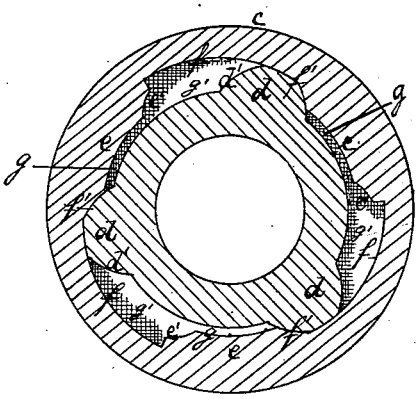

Fig 3.

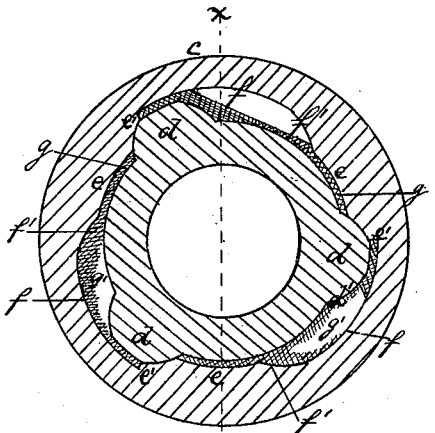

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

NATHAN U. WALKER, OF WALKER'S, OHIO.

SECTIONAL PIPE.

SPECIFICATION forming part of Letters Patent No. 261,190, dated July 18, 1882.

Application filed February 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, NATHAN U. WALKER, of Walker's P. O., in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Sectional Pipe; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the construction of pipe and pipe-joints made of clay, cement, composition, iron, or other materials, which are united by means of a socket or bowl made on end of each section; and it consists in centering pipe-sections one with another by means of curved inclined surfaces on the inner side of the socket or bowl.

By constructing the pipe with longitudinal external ribs or bands I am enabled to get the requisite strength without any great increase of material, and at the same time obtain wedges to operate in connection with the curved inclines on the inner surface of the socket of the next section.

As heretofore constructed the sockets of the pipe, which were made larger for the reception of the cement necessary to make tight joints, have had no provision for raising the end of the entering pipe so as to bring its bore to the same level as that of the socket-pipe, and consequently the end of the entering pipe would drop below the level of the socket-pipe, forming a recess for the accumulation of sand and other material, increasing the friction upon the fluid passing through the pipe, and often making defective joints by the sinking of the entering-pipe in the cement while still soft or under the pressure of superposed earth.

To enable others skilled in the art to make and use my improvement, I will now describe it by reference to the accompanying drawings, in which—

Figure 1 is a side view of two sections of pipe, the bowl of one being formed in section *x x*, to show how the small end of the other section enters it. Figs. 2 and 3 are cross-sections on the line *y y* of Fig. 1, illustrating the manner of centering the pipe.

Like letters of reference indicate like parts in each.

Two sections, *a b*, of pipe are shown in Fig. 1. These sections are each provided with a bowl or socket, *c*, on one end and with longitudinal ribs *d*, extending from the bowl to the other end. The corners of the ribs *d* are rounded off, as at *d'*, for the purpose of fitting them to operate more perfectly with the inclines on the inner side of the socket.

Inside of the socket *c* are three or more inclined surfaces, *f*. The thick parts *e* of the socket are arcs of the true circle of the socket, and the diameter of such circle is larger than the diameter of the pipe *a* between the strengthening-ribs *d*, so that spaces *g* are left between them for the reception of cement.

Between the parts *e* are curved inclines *f*, which are deepest at the point *e'* and grow shallower until they reach the abrupt incline *f'*.

When the pipe-sections are brought together the small end of one is inserted into the socket of the other, with the ribs *d* in the position shown in Fig. 2, and then they are rotated on their axes in opposite directions. This causes the ribs *d* to ride up upon the inclines *f* until they come into contact with the abrupt inclines *f'*, when the end of the entering-pipe will be centered with that of the receiving-pipe. In this way I obviate the difficulties arising from the former construction, and I obtain a strong, light pipe, which is as easily made as the old form, the sections of which are centered perfectly when put together. If desired, the ribs *d* may be caused to extend spirally around the outer surface of the pipe-section.

After the sections are put together the joints are made tight by cement placed in the space *g* and *g'* in the bowl *c* around the end of the entering-pipe.

If desired, the ribs or bands *d* may be omitted and lugs or projections made on the periphery of the small end of the pipe to act with the inclines *f* in centering the sections.

I am aware that lugs having inclined sides have been formed on the extremity and within the bowl of a pipe-section in order to obtain what is termed a "bayonet" lock or coupling, and do not herein claim such a construction. It is evident that the object and results, as well as the construction of my devices, differ essentially from such devices, as the inclines are upon the inner and outer surfaces, and not on the sides of the projections or lugs.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A pipe-section having a socket or bowl provided with inclines or eccentric inner surfaces, and having a series of longitudinal ribs on its exterior surface, said ribs corresponding in number to the inclines within the bowl, whereby duplicate sections may be centered in laying a line of pipe, substantially as specified.

2. A socketed pipe-section having inclined inner surfaces designed to co-operate in centering the entering pipe, which has projections or wedges on its outer surface to coact with the inclines of the socketed section, substantially as and for the purposes described.

3. A socketed pipe-section having inclines on the inner surface of the socket, in combination with the entering pipe having projections on its side, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 14th day of February, A. D. 1882.

NATHAN U. WALKER.

Witnesses:
T. B. KERR,
JAMES H. PORTE.